

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN INVESTIGATION OF BIG RIVERS	)	
ELECTRIC CORPORATION'S RATES	)	CASE NO. 9885
FOR WHOLESALE ELECTRIC SERVICE	)	

O R D E R

BACKGROUND

On July 20, 1987, Big Rivers Electric Corporation (Big Rivers) -- in response to the Commission's March 17, 1987, Order establishing this case -- filed its compliance report, business plan, a revised workout plan, suggested tariff sheets and supporting computer data runs for fixed rates and a variable aluminum smelter power rate, and the prepared testimony of several witnesses. The workout plan is a debt restructuring agreement negotiated among Big Rivers and its principle creditors; the Rural Electrification Administration (REA) and two New York banks.

On July 24, 1987, a formal conference was held to discuss procedures for consideration of this case. An unusually speedy decision was required because, as Big Rivers informed the Commission, the workout plan proposed by Big Rivers and its creditors would expire after August 10. At the conference the hearing in this case, which had been previously scheduled for July 28, was rescheduled for August 4 to allow more time for the parties to prepare. The parties to this case are the same as

those to Case No. 9613:<sup>1</sup> the Utility and Rate Intervention Division of the Office of the Attorney General (Attorney General), National Southwire Aluminum Company (NSA), Alcan Aluminum Corporation (Alcan), Utility Rate Cutters of Kentucky, Hancock County, Kentucky, City of Hawesville, Kentucky, Willamette Industries, Inc., Commonwealth Aluminum Corporation, and Alumax Aluminum Corporation. Firestone Steel Products Company is a limited intervenor.

In its initial order establishing this case, the Commission urged the parties -- particularly Big Rivers and the aluminum smelters -- to seek a negotiated agreement. The Commission employed as special counsel Lawrence E. Forgy, Jr., to assist in these negotiations and all other matters related to this case. It soon became clear that such an agreement would be extremely difficult to reach and that the Commission would have to take an active role in striking the balance among these parties. For this reason the Commission, after consultation with Big Rivers and the aluminum smelters, took the unusual step of retaining the services of several independent consultants to assist it in evaluating the complex issues in this case. The Commission engaged Arthur Andersen & Company (Arthur Andersen), an accounting firm, to audit certain operating costs of Big Rivers, Alcan, and NSA. The Commission also retained Anthony Bird, an internationally respected aluminum expert, to assist it in evaluating and

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<sup>1</sup> Case No. 9613, Big Rivers Electric Corporation's Notice of Changes in Rates and Tariffs for Wholesale Electric Service and of a Financial Workout Plan.

designing tariffs for the aluminum smelters served by Big Rivers. Mr. Bird was described by one of the parties as "the only independent aluminum expert to testify."<sup>2</sup> It was agreed and confirmed by Order of the Commission that the three directly affected parties, Big Rivers, NSA and Alcan, would share equally the costs of these consultants.

Public hearings were held at the Commission's offices in Frankfort, Kentucky, commencing on August 4, 1987, and concluding on August 6, 1987. During the public comment portion of the hearing, statements were presented by the Honorable Danny Boling, Hancock County Judge-Executive; Charles F. Cook; Jerry Dobbs; and Ron Sheets, President of the Kentucky Association of Electric Cooperatives. The parties sponsored testimony at the hearing by the following witnesses:

**Big Rivers**

William H. Thorpe - General Manager

Paul A. Schmitz - Vice General Manager,  
Finance

Robert F. McCullough - Manager of Regula-  
tory Finance at Portland General  
Electric

Frank M. Yans - Arthur D. Little, Inc.

Bernard J. Duroc-Danner - Arthur D.  
Little, Inc.

Viktors Vejins - Arthur D. Little, Inc.

**NSA**

Howard W. Pifer, III - Putnam, Hayes &  
Bartlett, Inc.

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<sup>2</sup> Alcan Brief, August 7, 1987, page 3.

NSA & Alcan

Robin G. Adams - Resource Strategies, Inc.

Sam F. Rhodes - Touche Ross & Co.

Attorney General

Randall J. Falkenberg - Kennedy and Associates

Lane Kollen - Kennedy and Associates

Commission

Gerald L. Von Deylen - Arthur Andersen & Co.

Anthony Bird - Anthony Bird Associates

Briefs were filed on August 7, 1987. In establishing this case, the Commission has incorporated by reference the record of evidence in Case No. 9613.

Big Rivers is a non-profit cooperative corporation engaged in the generation, transmission, and sale of electricity through four distribution cooperatives to approximately 75,000 customers in 22 counties in Western Kentucky. Big Rivers derives approximately 70 percent of its member revenues from two industrial customers, NSA and Alcan, both engaged in the smelting of aluminum.

NSA'S MOTIONS TO DISMISS AND FOR  
POSTPONEMENT OF DECISION

On July 24, 1987, NSA filed a motion to dismiss on the grounds that "the rate filing of Big Rivers in Case No. 9885 is incomplete and inappropriate for resolution by the Commission in its present form."<sup>3</sup> NSA argues that: (1) Big Rivers has not

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<sup>3</sup> NSA Motion, July 24, 1987, at 1.

complied with the guidelines set forth in the Order issued March 17, 1987, establishing this case; (2) Big Rivers' filing ignores rate-making principles embodied in Kentucky law; (3) adoption of Big Rivers' proposal is not necessary to preserve the Commission's rate-making jurisdiction because that jurisdiction would not be jeopardized by a foreclosure, bankruptcy, or voluntary turnover of assets; and (4) Big Rivers has not complied with Commission regulations governing rate filings by utilities. On August 1, 1987, Big Rivers filed a response in opposition to NSA's motion. NSA subsequently filed a reply and Big Rivers filed an answer thereto.

The Commission overrules NSA's motion. We find that Big Rivers made a good faith effort to comply with the guidelines set out in the March 17, 1987, Order. While the proposed rates are below the level necessary to recover Big Rivers' full cost-of-service, they would allow Big Rivers sufficient revenue to meet the requirements of the revised workout agreement. This complies with the appropriate rate-making principles. The Commission is not ordering new rates for Big Rivers to preserve its regulatory jurisdiction. As explained in this Order, these rates are being set because existing rates are not fair, just, and reasonable.

Big Rivers' filing of suggested rates did not violate the Commission's regulations governing utility rate filings. Those regulations are applicable only to utility-initiated rate adjustments filed pursuant to KRS 278.190. This case is a rate investigation, pursuant to KRS 278.260 and 278.270, initiated upon

the Commission's own motion. The Commission, after a hearing, is prescribing just and reasonable rates to be charged in the future.

On August 3, 1987, NSA filed a motion objecting to the Commission's adjudication of this case until the REA ends its embargo of loan funds for all Kentucky cooperatives. The REA announced its embargo in a letter to the Commission dated April 9, 1987. NSA argues that until the embargo is lifted it will be difficult for the Commission to decide this case impartially. The Commission overrules this motion. In establishing this case on March 17, the Commission set aside four months for further study and negotiations among the parties. At the end of that period we stated that the rates for Big Rivers would be expeditiously set. We have closely followed this procedure. An extensive record has been created, which includes the reports of the Commission's own consultants. We have based our decision on this record. The loan embargo by the REA is an external factor that we have addressed elsewhere in this Order.

#### OVERVIEW

This case has presented one of the most complex and extraordinary challenges ever faced by this Commission. At stake is the very survival of Big Rivers in its present form. It is in arrears on more than one billion dollars in loans from public and private sources and is threatened with foreclosure. The economic future of Western Kentucky and the 75,000 customers served by Big Rivers has been shaken by these events. The long-term existence

of Big Rivers' two largest customers -- the NSA and Alcan aluminum smelters -- is at issue.

In order to reach a fair and reasonable decision in this case, the Commission has had to carefully weigh and balance many competing interests. We have taken unusual steps to aggressively gather the evidence necessary to make an informed judgment. When we issued our order finding the proposed workout plan in Case No. 9613 to be inadequate, we simultaneously established this investigation on our own motion. We made every effort to encourage Big Rivers, its creditors, and the aluminum smelters to reach an agreement. When the negotiations stalled, the Commission moved quickly to retain the services of an independent accounting firm to audit the smelters and Big Rivers. We also retained Mr. Bird to advise us on pricing structures for the aluminum smelters.

It was, of course, Big Rivers' construction of the Wilson generating station and the consequent request for increased rates that led to this controversy before the Commission. Many of the issues surrounding this case were extensively explored in Case No. 9613. In that case, we found no clear evidence that Big Rivers was imprudent in constructing the Wilson station. Opponents to increased rates have argued that the Wilson station should nevertheless be excluded from Big Rivers' rate base because the plant is not used and useful for the provision of service to Big Rivers' customers. Extensive debate has focused on Big Rivers' contention that the Wilson station is used and useful for providing an adequate level of reliability for its system.

We rejected in Case No. 9613 the mechanical application of the used and useful standard as the sole determinant of whether the Wilson station would be included in rates. In our Order, we stated that, with regard to the issue of used and useful, the Commission "is under no statutory obligation to apply a used and useful standard exclusively, or any other single, rigid standard."<sup>4</sup> Further, that Order identified the controlling statutory standard and legal precedent for Kentucky as "set forth in KRS 278.030(1): 'Every utility may demand, collect and receive fair, just and reasonable rates for the services rendered or to be rendered by it to any person.'<sup>5</sup> We concluded that our fundamental responsibility was to seek "a solution that would fairly balance the interests of all parties."<sup>6</sup> This approach has longstanding support among the courts. The U.S. Supreme Court more than 40 years ago stated:

The Constitution does not bind rate-making bodies to the service of any single formula or combination of formulas. Agencies to whom this legislative power has been delegated are free, within the ambit of their statutory authority, to make pragmatic adjustments which may be called for by particular circumstances. Federal Power Commission v. Natural Gas Pipeline Co., 315 U.S. 575, 586 (1942).

In its frequently cited Hope Natural Gas decision, the Supreme Court stated:

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<sup>4</sup> Case No. 9613, Order issued March 17, 1987, page 36.

<sup>5</sup> Ibid., page 37.

<sup>6</sup> Ibid., page 40.



Under the statutory standard of 'just and reasonable', it is the result reached not the method employed which is controlling. It is not theory but the impact of the rate order which counts. Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591 (1944).

We must in this case rely on a careful balancing of interests and equities to reach a fair, just, and reasonable result. The ingredients in this balance were discussed in Case No. 9613 and are reviewed again in this Order. They include the nature of the proposed workout plan, the condition of Big Rivers, the condition of the aluminum smelters, the role of REA and the smelters in the decision to build the Wilson station, the interests of the residential and other ratepayers, and the fact that Big Rivers is a cooperative owned by its members who are also its customers.

In Case No. 9613 the proposed workout plan was found to be unsatisfactory because of the uncertainties associated with it. Several of our major objections to the original plan have been addressed by the revised plan submitted in this case. The revised plan does not rely on cash flow targets but rather is based on a minimum debt service schedule. The REA has agreed to a cumulative debt service shortfall cap of \$350 million. Because of these revisions, other targets do not need to be specified. Secondly, the revised plan sets out the increases in rates required in 1989 and 1991 and states that the "repayment plan will not require additional rate increases for debt service."<sup>7</sup> The off-system

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<sup>7</sup> Big Rivers Exhibit 3, page 1.

sales projections used in preparing this version of the workout plan are more realistic than those assumed in the previous plan.

In addition, we find that the inclusion of variable aluminum smelter power rates is an important new feature not previously included in the workout plan. A variable rate makes it more likely that the aluminum smelters will stay in business when aluminum prices are low. Mr. Bird testified that a variable rate would greatly assist the smelters in weathering the downturns in the aluminum market that are an inevitable part of this highly cyclical industry.

Given Big Rivers' enormous reliance on power purchases by the smelters, the future solvency of Big Rivers is inextricably linked to the health of the smelters. We have been encouraging Big Rivers and the smelters to develop a variable rate since 1984.<sup>8</sup>

Given these improvements in the workout plan and based on the record before us, we have concluded that the revised workout plan -- with the modifications specified below -- provides a fair resolution of Big Rivers' financial problems while providing just and reasonable rates for its customers. We have granted the first phase of the Big Rivers' rate request. This will include a modified variable rate for the aluminum smelters and an appropriate rate increase for the non-smelter customers, which will equitably distribute the requirements of the workout plan among the ratepayers served by Big Rivers. We note that the rates

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<sup>8</sup> Case No. 9163, Big Rivers Electric Corporation's Notice of Changes in Its Rates for Electricity Sold to Member Cooperatives.

for Big Rivers' customers have not been increased since 1981. Indeed, there have been recent decreases in rates due to flow-throughs from the fuel adjustment clause. The rates will be effective September 1, subject to certain conditions set out below.

We have not approved rate increases in future years as Big Rivers proposed. These rate increases would go into effect on January 1, 1989, and January 1, 1991. We do not believe we have the authority to approve these two additional rate increases under the circumstances of this case. The parties were officially notified of Big Rivers' intention to seek formal approval of a three phase rate increase only three weeks ago. The Commission is hesitant to approve rate increases which will take effect years in the future under any circumstances.

Fairness requires that these future rate increases be preceded by a hearing. These hearings have the additional advantage of allowing the Commission and all parties to review the implementation of the workout plan. The Commission will require Big Rivers to file rates for the second and third increases by July 1, 1988, and July 1, 1990, respectively. These filings should include, in addition to the standard information required by regulation, updates on Big Rivers' load forecast and recent load experience, a report on off-system sales, and the record of its payments to its creditors.

We had hoped that Big Rivers and the aluminum smelters might have negotiated an agreement on aluminum rates. We did everything in our power to facilitate such an agreement. In the absence of

an agreement, we have used the best evidence available to set a variable rate that is fair to both the smelters and Big Rivers. During the hearing, there was a glimmer of a possible agreement among these parties, particularly during the testimony of Robin Adams, an aluminum expert retained by NSA and Alcan. Unfortunately, there was too little time for any serious negotiations.

We encourage Big Rivers and the smelters to resume these negotiations. If an agreement can be worked out between these parties, the Commission would willingly examine changes in the smelter rates set out in this order.

The workout plan we are approving today will, we hope, end the uncertainty that has plagued Big Rivers and its service territory over the last few years. But we recognize that it will not, of itself, solve the central problem: Big Rivers' dangerous overreliance on two aluminum smelters for the lion's share of its revenue. Once again we urge state and local officials, working with the private sector, to do their utmost to diversify the economy of Western Kentucky. This workout plan will eliminate one obstacle to this goal. Much remains to be done.

The Commission will do its part, first, by vigorously pursuing its statewide planning docket.<sup>9</sup> This will lead to the planning and operation of power plants from a statewide perspective, rather than simply to meet the needs of a single

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<sup>9</sup> Administrative Case No. 308, An Inquiry into Kentucky's Present and Future Electric Needs and the Alternatives For Meeting Those Needs.

utility. This approach will reduce the risk that any one area of the state will suffer because of a regional decline in load growth. The Commission will also continue its efforts to use the multi-billion dollar utility infrastructure of this state -- electric, telephone, gas, and water -- to retain existing industries and attract new ones.

#### INCREASE TO NON-SMELTER LOAD

The Commission finds the phase one increase of approximately \$15 million dollars as proposed by Big Rivers is reasonable and should be effective September 1, 1987, subject to the three conditions specified elsewhere in this Order. The Big Rivers proposal included a ratchet demand provision for load centers not billed under contract. Although the Commission does not typically endorse ratchet demand provisions it finds that in the case of Big Rivers the provision is reasonable because of the utility's unique load characteristics.

The Big Rivers system is characterized by an unusually high load factor and a very high proportion of its load served under contract provisions. Big Rivers argued in Case No. 9613 that a similar billing treatment for the contract and non-contract customers would be more equitable and that a ratcheted billing demand provision would accomplish this. Further, the ratchet provision would provide increased revenue stability and is therefore a desirable feature to include in the workout plan. The Commission concurs and finds that the phase one increase should be approved as proposed.

With regard to the phase two and phase three increases, the Commission reiterates that it will not approve those increases at this time. Those increases will be reviewed when they are filed in accordance with the provisions of this Order.

#### VARIABLE RATE - COMMISSION AUTHORITY

NSA has challenged the Commission's authority to authorize, absent NSA's consent, flexible power rates that are based on its ability to pay. The Commission finds NSA's argument to be irrelevant because the flexible rates implemented herein are based on findings of what NSA should pay, not what it can pay. While the aluminum consultant retained by the commission performed a study of the financial viability of the smelters, the Commission has used that study as only one factor among many in determining the appropriate rates for all customers.

The Commission is statutorily empowered to "prescribe a just and reasonable rate to be followed in the future" upon finding that "any rate is unjust, unreasonable, [or] insufficient." KRS 278.270. The findings herein are that Big Rivers' existing rates are indeed unjust, unreasonable, and insufficient to cover operating costs and service its debt. The Commission has accordingly authorized new rates to be charged for all electric service rendered in the future. The rate for power provided to NSA and Alcan is a flexible rate that will vary with the market price of aluminum.

In the Commission's opinion the rate is likely to produce, over time, the same amount of revenue that would be produced under

a conventional, flat rate. NSA's witness, Dr. Howard V. Pifer III, testified that the Commission could establish conventional cost-based rates for Big Rivers or "as an alternative, the Commission could set innovative rates for the aluminum smelters which link electricity prices to aluminum prices."<sup>10</sup> This is precisely what the Commission has done.

NSA's existing power contract provides that it will pay for power in accordance with the rates appended thereto, subject to "such changes as may be authorized or ordered into effect from time to time by the Kentucky Public Service Commission."<sup>11</sup> The case law cited in NSA's brief definitively states that regulatory commissions possess the authority to order changes or modifications to rates embodied in a utility's contract with a customer, if:

{T}he rate is so low as to adversely affect the public interest - as where it might impair the financial ability of the public utility to continue its service, cast upon other consumers an excessive burden, or be unduly discriminatory.

Federal Power Com. v. Sierra Pacific Power Co., 350 U.S. 348, 355 (1955). In this case the Commission has determined that NSA's existing contract rate does impair Big Rivers' financial condition and that compelling reasons exist to implement flexible rates.

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<sup>10</sup> Pifer Prefiled Testimony at 11-12.

<sup>11</sup> NSA Brief at 26.

### A VARIABLE RATE FOR THE ALUMINUM SMELTERS

The Commission has long suggested to the parties in this case that a variable-rate tariff tied to metal prices might be appropriate for the smelters in that it would protect the aluminum smelters in times of weak metal prices. Earlier, the smelters had themselves suggested such a tariff; and in its filing Big Rivers requested a tariff of this nature as an alternative to the flat-rate proposal.

Anthony Bird testified in the Commission's hearings that the scale of rates proposed by Big Rivers would, in his judgment, squeeze the smelters too hard at times of low metal prices. Mr. Bird agreed that there were strong reasons for implementing a variable-rate contract in Kentucky.

Although the aluminum market is very buoyant at present, there are nevertheless strong arguments for pressing ahead with variable-rate tariff proposals. In particular, if costs and exchange rates remain at today's levels, then prices can be expected to fall back in time, to about 62-64 cents. Further, the volatility of actual prices around the equilibrium level has been very great in the past, and may well be even greater in the future. Thus to set a new, higher, flat-rate tariff could be dangerous. This is especially true since Sebree and Hawesville are high-cost plants, and will always be vulnerable in a period of falling prices if a high flat-rate tariff is in place.<sup>12</sup>

If either of the smelters were to close because of a burdensome flat rate in a recession, the Commission feels that the

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<sup>12</sup> Bird Prefiled Testimony, at page 6.



consequences for Big Rivers and its other customers would be disastrous.

Mr. Bird testified that this problem could be alleviated by the implementation of a variable-rate power contract limited to metal prices. He noted that such contracts had been implemented successfully in many other parts of the world, with differing local circumstances; in addition to the Bonneville smelters in the Northwest, plants at Mt. Holly, S.C.; Ravenswood, W.Va.; Portland, Australia; Tema, Ghana; and Straumsvik, Iceland, all have variable rate contracts in place. Further, Mr. Bird noted that contracts for alumina, a major raw material used in producing aluminum, are also frequently linked to metal prices.

Mr. Bird presented a calculation of what such a variable-rate contract might look like. Mr. Bird based his calculations on the economics of the NSA smelter. An audit by Arthur Andersen had established that costs at Alcan's Sebree smelter were lower, and so any contract which made NSA viable should also ensure the viability of Sebree.

The Commission notes that Mr. Bird's calculations on this point were closely in line with independent estimates made by Mr. Adams,<sup>13</sup> a consultant representing the aluminum companies, and with estimates made by Arthur D. Little<sup>14</sup> for Big Rivers, insofar as these related to normal market conditions.

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<sup>13</sup> Adams Prefiled Testimony, at page 18.

<sup>14</sup> Prefiled Testimony, Exhibit 11, page 14.

Dr. Duroc-Danner testified that at times of low metal prices, the smelters could afford to pay more than Mr. Bird estimated that they could, arguing that substantial premiums were being earned from higher-value forms and from the high purity of metal produced at Hawesville.<sup>15</sup> Mr. Yans, also from Arthur D. Little, and appearing on behalf of Big Rivers, provided additional testimony on this point,<sup>16</sup> and also contended that such premiums were an integral part of the overall economics of the smelter. Dr. Duroc-Danner also argued<sup>17</sup> that the smelters would face substantial shutdown costs if they tried to cease operation. As a result they would in practice use form and purity premiums, he said, to see them through in bad times, and it was therefore legitimate for Big Rivers to take this into account in its schedule of rates.

Mr. Bird, however, said that this was very dangerous.<sup>18</sup> The purity premiums as established by Arthur Andersen were lower, he pointed out, than Arthur D. Little had estimated. Further, form premiums could readily be captured by firms who were not in the aluminum smelting business at all, if they were prepared to incur a small extra remelting cost. Further, Mr. Bird argued that the special constitution of NSA as a separately incorporated cost partnership made it possible for NSA to avoid most of the shutdown

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<sup>15</sup> Hearing Transcript, Volume I, page 99.

<sup>16</sup> Ibid., page 333.

<sup>17</sup> Ibid., page 80.

<sup>18</sup> Hearing Transcript, Volume III, page 74.

costs identified by Dr. Duroc-Danner, and perhaps all of them. Thus Mr. Bird concluded that it was imprudent to rely on these premiums except to the limited extent allowed for in his calculations.

In the light of these factors, Mr. Bird estimated that the smelters could prudently be asked to pay as follows:

- at a metal price of 62 cents, 31.8 mills
- for metal prices lower than 62 cents, a 0.9 mill reduction in the power price for each 1 cent reduction in the metal price
- for metal prices above 62 cents, a 0.7 mill rise in the power price for each 1 cent rise in the metal price
- a floor of 16.3 mills, or 18.1 mills if the Commission thought it right to consider Wilson
- a ceiling of 45.8 mills (or 44.0 mills if the higher 18.1 mill floor were chosen)

As a means of determining the metal prices to be used in this contract, Mr. Bird favored the Metals Weeks transaction price. This price is an estimate of the price at which transactions take place, published by the trade magazine Metals Week.

In its closing argument, Big Rivers urged that Mr. Bird's calculations be adjusted to take account of a number of factors. After considering these, the Commission believes that there is merit in two of Big Rivers' arguments. First, account should be taken of the possibility that purity premiums may be slightly higher than Arthur Andersen estimated, since full information on this point was not made available to the auditors. Secondly,

allowance should be made for the fact that Southwire, if it were an independent operation, would incur higher working capital costs than it would as an integrated operation.

As a result of these points, the Commission is of the opinion that the rates should be slightly different from those proposed by Mr. Bird. The Commission's final decision is that rates should be:

- at a Metals Week transaction price of 62 cents, 32 mills
- for each 1 cent rise in the metal price above 62 cents, a 0.7 mill rise in the electricity price
- for each 1 cent fall in the metal price below 62 cents, a 0.8 mill fall in the electricity price
- a floor price of 18.1 mills
- a ceiling price of 44 mills.

#### ADEQUACY OF REVENUE

On behalf of Big Rivers, Mr. Thorpe testified<sup>19</sup> that the variable rate proposed by Mr. Bird would cause a revenue shortfall of \$250 million over a ten-year period, when compared with the alternative variable-rate scheme proposed by Big Rivers, and was therefore unacceptable to Big Rivers. Mr. Bird stated<sup>20</sup> that, using the Big Rivers computer model, he had verified that Mr. Thorpe's calculation would be correct, only if the long-run trend in metal prices was as poor as that predicted by Arthur D. Little.

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<sup>19</sup> Hearing Transcript, Volume I, page 160.

<sup>20</sup> Hearing Transcript, Volume III, pages 77-78.

But Mr. Bird contended that this assumption was too conservative. He testified that if metal prices were to fluctuate around the 62-cent mark, then the Big Rivers revenue targets would be met.<sup>21</sup> However, in such a case Mr. Bird admitted that the five-year moving average condition set by the REA might be violated as a result of the severity of the price fluctuations that were possible.

Arthur D. Little's price scenario had been for a base price of 58-60 cents per pound initially, declining thereafter at 1.2% a year, in real terms. Mr. Yans defended this forecast<sup>22</sup> with reference to the very low level of production costs prevailing in Venezuela, and the fact that production costs had tended to fall in recent years. Mr. Bird countered<sup>23</sup> by saying that production costs were no longer falling, but were now rising again; that in its present debt situation few bankers would lend money to Venezuela, and that consequently aluminum smelter economics in the long run would be determined by the slightly higher cost levels seen in Australia and Canada; and that 62 cents was the most prudent aluminum price which he thought it reasonable to assume for the future. Mr. Adams, for the aluminum companies, agreed<sup>24</sup> with Mr. Bird.

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<sup>21</sup> Ibid., page 79.

<sup>22</sup> Hearing Transcript, Volume I, pages 329-330.

<sup>23</sup> Hearing Transcript, Volume III, page 84.

<sup>24</sup> Hearing Transcript, Volume II, page 175.

In addition, Mr. Bird argued<sup>25</sup> that if the Arthur D. Little price scenario turned out to be correct, so that Big Rivers had a need for the \$250 million extra revenue identified by Mr. Thorpe then the problem was insoluble. In such a case, the smelters simply could not afford to pay the rates requested by Big Rivers.

Big Rivers argued<sup>26</sup> for higher rates than Mr. Bird's in good times on the ground that if it faced additional downside risk it should be compensated by higher revenues at higher metal prices. However, Mr. Bird pointed out that his assessment that the aluminum companies could afford less in bad times than Big Rivers requested did not mean that he was suggesting that the utility should take on extra risk. Rather, he was codifying and quantifying the degree of risk which Big Rivers had already agreed to undertake,<sup>27</sup> and for which it should not now be seeking additional reward. In its brief Big Rivers proposed a new curve which was closer to Mr. Bird's proposal.<sup>28</sup> As Dr. Duroc-Danner put it,<sup>29</sup> by selling 70% of its output to a single industry, Big Rivers had already decided to enter, and share the risks of, the aluminum industry long ago.

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<sup>25</sup> Hearing Transcript, Volume III, page 88.

<sup>26</sup> Ibid., page 180.

<sup>27</sup> Ibid.

<sup>28</sup> Big Rivers Brief, page 12.

<sup>29</sup> Hearing Transcript, Volume I, page 161.

### THE WORKING OF THE CONTRACT

Various aspects of the adjustment of the terms of the proposed variable-rate contract were considered in hearings before the Commission, but in the Commission's view no satisfactory resolution of these matters was achieved.

Mr. Bird proposed<sup>30</sup> a series of mechanisms for ensuring that the terms of his variable rate be adjusted over time, in line with general changes in the price level. Big Rivers argued that these proposals were unsatisfactory, and that the terms of the original Big Rivers proposal were in fact more generous to the aluminum smelters in this respect than Mr. Bird had estimated.<sup>31</sup> Big Rivers proposed annual audits to update the curve. However, the Commission concluded that this would provide little incentive for the smelters to control costs.

At the same time, there was an unresolved question about the impact of trends in the cost of Big Rivers' fuel in future years. For these reasons, the Commission is unable at present to build inflation-adjustment mechanisms into the contract. Instead, the Commission will review the matter of adjustment for inflation (or deflation) at its hearing to follow Big Rivers' July 1 filing next year, and will implement whatever changes may be appropriate at that time. The Commission would also welcome suggestions from the parties in those future hearings as to a suitable form for a more permanent inflation-adjustment mechanism.

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<sup>30</sup> Bird Prefiled Testimony, pages 56-61.

<sup>31</sup> Hearing Transcript, Volume III, page 190.

Mr. Bird proposed that a variable-rate contract of the kind which he outlined be implemented in the form of a fund.<sup>32</sup> In good times, when prices were above 62 cents, the smelters would pay premium prices. Any excess over Big Rivers' revenue target would not be paid directly to Big Rivers, but into an escrow fund. This fund, plus accumulated interest, would then provide Big Rivers with a cushion against a revenue dip in bad times, when prices were below 62 cents. If bad times were prolonged, this fund might become exhausted, and a shortfall would start to accumulate. Eventually, if good times returned again, the smelters would be under an obligation to make good the accumulated shortfall, plus accumulated interest.

There was much discussion in the hearing about what should happen in the event of a significant accumulated surplus or deficit appearing in the fund at the end of the contract period. In the Commission's view, these matters have not yet been satisfactorily resolved. Accordingly, the Commission does not accept the fund version of the variable-rate proposal made by Mr. Bird.

However, the Commission does accept the point made by Mr. Bird when outlining his fund concept -- that equity between the parties is important. Subject always to the viability of the aluminum companies, the amounts foregone by Big Rivers in bad times should in principle be matched by the premium prices paid by the aluminum companies in good times, but no more.

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<sup>32</sup> Bird Prefiled Testimony, pages 45-46.



Accordingly, the Commission will in future hearings review the extent to which the payments made by the aluminum companies are enabling Big Rivers to maintain its debt-service schedule as set out in Exhibit 4 or not. If it appears to the Commission that payments made by the aluminum companies are significantly higher than Big Rivers' needs, the Commission will review the variable-rate curve with a view to making an appropriate adjustment. The first such review will not, however, take place until the hearing that will follow Big Rivers' filing on July 1, 1990.

As an alternative to Mr. Bird's proposal, Mr. Adams, for the aluminum companies, presented a plan which involved the restructuring of Big Rivers' debt. Under Mr. Adams' plan, the repayment prospects for the lowest category of debt would be linked to the price of aluminum. The Commission felt that such a proposal was unfavorable to Big Rivers' creditors; for on the rates now set in place, the Commission believes that Big Rivers' debts can in fact be paid.

#### TEMPORARY DEMAND SURCHARGE

Big Rivers has suggested that the Commission approve a tariff containing a temporary demand surcharge to recoup, over the next 40 months, the revenues it would have recovered between March 1, 1987, and September 1, 1987, had the Commission approved the rates it requested in Case No. 9613. (Big Rivers Exhibit 7 at 5). The temporary demand surcharge is designed to recover a total of \$16,011,573, consisting of: \$11,715,523 attributable to lost

revenues between March 1 and September 1, \$2,223,392 in additional interest costs due to the six-month delay in effectuating a workout plan, and \$1,993,171 in additional interest due to this revenue being collected over 40 months instead of six.

The Commission finds that Big Rivers' suggested surcharge is unreasonable. In Case No. 9613, Big Rivers proposed to increase its rates in 1986 to recover the Wilson-related debt expenses as restructured under the prior workout plan. After a thorough and extensive review of that workout plan, the Commission found that the plan would not provide a workable, long-term solution to Big Rivers' financial problems. Consequently, on March 17, 1987, an Order was issued denying the proposed rates and continuing in force the existing rates.

That Order clearly set forth the Commission's decision that there would be no rate increases to recover Wilson debt until an acceptable financial solution was at hand. Big Rivers cannot now seek retroactive recovery of these revenues. If the Commission were to allow this surcharge, then no rate case would ever be finally decided. Any utility that had been denied all or part of its rate request would simply file another rate case that included a surcharge designed to collect the revenue, plus interest, that it had been previously denied. This would be contrary to due process and sound rate-making principles.

The requested surcharge in this case is clearly distinguishable from that of a utility whose financial difficulties have been compounded by a delay in seeking appropriate rate relief. In that situation, the Commission has

not had an opportunity to formally address the utility's problems until a crisis is at hand, whereas in this case the Commission has previously reviewed the utility's rate request and did not approve it.

#### IMPACT OF THE PROPOSED WORKOUT PLAN

The Commission realizes its decisions herein to adopt an alternative variable rate formula and reject the demand surcharge may not entirely satisfy the constraints of the revised workout plan. For instance, depending upon aluminum price projections, it is possible that the provision to maintain cumulative debt service payments over five-year rolling intervals may be violated.

This negative effect may be more than offset, however, by the possibility that the variable rate formula will generate enough revenue in excess of the minimum debt service in the early years, when aluminum prices are projected to be high, to allow for early payment of additional interest and principal. Further, it is the Commission's view that based on its best projections of aluminum prices, the variable rate formula discussed herein will provide the same overall revenue as already approved by REA. In addition, it believes that the maximum arrearage of \$350 million will not be exceeded. The Commission is convinced by the price scenarios put forward by Mr. Bird and Mr. Adams, and as a result feels that the variable rate that it is now implementing will be sufficient to generate the revenues which Big Rivers requires from the smelters.

Revenue generated from  
aluminum smelters over a  
ten-year period, constant  
1987 money.

Big Rivers initial rate  
request, based on higher  
rates and lower metal  
price forecasts.

\$1484 Million

Commission staff estimates,  
based on the rates now  
implemented and higher  
metal price forecasts  
(excludes demand surcharge).

\$1512 Million

#### COOPERATIVE FEDERALISM

This case illustrates the importance of cooperative federalism in resolving difficult problems of this kind. The respective duties of the REA and state regulatory commissions may sometimes appear to conflict. In the case of a troubled utility, however, the overriding aim of both these bodies is the same: to craft a plan that recognizes federal interests yet fairly balances the needs of the utility and its customers.

In reaching a solution, there must be a full measure of cooperation among state regulators and federal authorities, working with the utility, its members, and customers. In this instance, the REA and the Commission have had to probe deeply into the complexities of the international aluminum industry. This is unfamiliar territory to these agencies and the process has been long and painful.

A successful workout plan requires give and take on all sides. We are pleased that the REA has voluntarily made significant concessions in the current workout proposal. It has

agreed to a variable power rate, clarified uncertainties about future rate requests, provided longer terms for repayment, a lower interest rate, and a deferral of certain principal and interest payments. For our part, this Commission has conducted an unprecedented audit by an independent accounting firm of the aluminum smelters and Big Rivers, and we have hired an aluminum expert to advise us.

After careful study and consideration, we have established the rates set out in this order -- rates that are fair to both Big Rivers and its customers. We are well aware of the statement by the U.S. Supreme Court in a recent case that "a particular rate set by [a public service commission] may so seriously compromise federal interests, including the ability of [the generation and transmission cooperative] to repay its loans, as to be implicitly pre-empted by the Rural Electrification Act." Arkansas Electric Cooperative Corp. v. Arkansas Public Service Commission, 461 U.S. 375, 389 (1983). We believe that the rates set out in this order are clearly consistent with federal interests. In the near term, these rates will allow Big Rivers to repay its debts at an accelerated pace. And they are the first step in a long-term solution to the utility's problems.

As we stated in our April 27, 1987, Order in Case No. 9613, this Commission asserts no authority to write down loans made or guaranteed by REA, nor does it assert authority to revalue utility property in order to accomplish this same end. Similarly, we respect the REA's authority to exercise its jurisdiction over its borrowers as it sees fit. For decades we have had a harmonious

relationship with the REA in bringing utility services to rural Kentucky. In exercising our statutory responsibilities, we intend in the coming years to work together with the REA to reasonably meet the needs of all Kentucky cooperatives.

#### IMPLEMENTATION OF RATES

The rates we have approved are the first phase of a workout plan that will lift the uncertainty that has hung like a cloud over the Big Rivers service territory since 1984. But it would serve no useful purpose for this Commission to approve new rates and a revised workout plan in the middle of a foreclosure action, possible bankruptcy, and other unsettled circumstances.

As we have stressed, the success of this plan will depend on cooperative federalism -- state and federal authorities working together to protect the interests of all parties. Certain assurances remain to be given before full cooperation can begin. We think it is reasonable for us to seek these assurances from the federal government and others prior to the rates being placed into effect.

The rates set out in this order are to be effective on September 1, 1987. However, three conditions must be met before the rates become effective. If any of the conditions are not met by September 1, then the effective date of the rates will be delayed until all conditions are met. What follows is an explanation of these conditions.

Before the rates go into effect September 1, we will require Big Rivers to provide evidence that the REA and other principal

creditors have accepted the revised workout plan as modified by this Order. These modifications include the variable rate for the smelters adopted by the Commission, the approval of the first phase of the rates effective September 1 rather than all phases at once, and the other changes that have been set out elsewhere in this Order. The evidence to be provided to the Commission should take the form of a letter and attachments from the principal creditors to Big Rivers, similar to the one provided by Big Rivers in Volume One, Exhibit Three, of its initial filing in this case.

We will also require the filing by Big Rivers of a written agreement with the federal government to end the foreclosure suit that is now pending in the U.S. District Court for the Western District of Kentucky, Civil Action No. 85-0012-0(J). Acceptance of the revised workout plan will eliminate the controversy between Big Rivers and the federal government that began this lawsuit.

The final condition is notification of the Commission by Big Rivers that the REA has ended its embargo of financial assistance for Kentucky cooperatives under its jurisdiction. This embargo was announced in a letter to the Commission dated April 9, 1987. The letter stated that the embargo was a reaction to the Commission's March 17, 1987, Order in Big Rivers' last rate case, Case No. 9613. This Order should clear up the misunderstandings that led to the embargo. Big Rivers should, therefore, be able to expeditiously provide the Commission with the written notification that the embargo has been lifted for all Kentucky cooperatives.

A continuation of the embargo would be inconsistent with the revised workout plan for Big Rivers. Once this plan is approved,

Big Rivers will no longer be in default to the federal government and will become entitled once again to appropriate financial assistance from the REA. If the embargo is still in effect, however, Big Rivers will -- like all other Kentucky cooperatives -- be unable to obtain REA financial assistance for which it might otherwise be eligible. Thus both the spirit of the workout plan and the principles of cooperative federalism require a speedy removal of the embargo.

Once the Commission has these three assurances, the new rates and the revised workout plan can go forward unimpeded by lingering controversies.

#### SUMMARY OF FINDINGS

1. Big Rivers' existing rates are unjust and unreasonable in that they are insufficient to produce the revenue needed to pay operating expenses, service the debt as restructured, and maintain financial integrity.

2. NSA's motions to dismiss and for postponement of the decision should be denied.

3. Big Rivers' revised workout plan, in conjunction with the rates approved in this Order, will provide a long-term resolution of Big Rivers' financial difficulties.

4. The economic stability of Big Rivers' two major customers, NSA and Alcan, will be enhanced by the implementation of power rates that vary with the market price of aluminum.

5. Big Rivers should file subsequent rate proposals or or before July 1, 1988 and July 1, 1990.



6. Big Rivers should continue to charge its existing rates until it has filed with the Commission: (1) written notice from its principal creditors evidencing their approval of the workout plan as modified by this Order and their acceptance of the rates found reasonable herein; (2) a written agreement evidencing the termination of the pending foreclosure action in the U. S. District Court for the Western District of Kentucky, Civil Action No. 85-0012-0(J); and (3) written notice evidencing the withdrawal of the existing loan embargo for all Kentucky cooperatives.

7. The rates set forth in Appendix A to this Order are the fair, just, and reasonable rates to be charged on and after Big Rivers files the documentation required by Finding No. 5., above, but not earlier than September 1, 1987.

IT IS THEREFORE ORDERED that:

1. NSA's motions to dismiss and postpone the decision be and they hereby are denied.

2. The rates set forth in Appendix A to this Order be and they hereby are approved for service on and after Big Rivers files the documentation required by Finding No. 6., above, and on and after September 1, 1987, whichever is later.

Done at Frankfort, Kentucky, this 10th day of August, 1987.

PUBLIC SERVICE COMMISSION

*Richard D. Hemmick*  
Chairman

*R. E. Chiswick*  
Vice Chairman

*James M. Williams*  
Commissioner

ATTEST:

\_\_\_\_\_  
Executive Director

APPENDIX A

APPENDIX TO AN ORDER OF THE PUBLIC SERVICE  
COMMISSION IN CASE NO. 9885 DATED AUGUST 10, 1987

The following rates and charges are prescribed for the customers in the area served by Big Rivers Electric Corporation. All other rates and charges not specifically mentioned herein shall remain the same as those in effect under authority of this Commission prior to the date of this Order.

RATES:

- a. For all aluminum smelter delivery points, a Monthly Delivery Point Rate as attached hereto in the Variable Aluminum Smelter Rate.
- b. For all other delivery points, a Monthly Delivery Point Rate consisting of:
  - (1) Demand Charge of:  
All kw of billing demand at \$7.50 per kilowatt.
  - (2) Plus an energy charge of:
    - (a) All kwh per month at \$ .017234 per kwh.

## Variable Aluminum Smelter Rate

### **Section I. Availability**

This schedule is available to cooperatives for sales for resale to primary aluminum smelters within the service territory of Big Rivers Electric Corporation ("Big Rivers") and its member cooperatives. This schedule only covers purchases for primary aluminum reduction and associated administrative facilities. It does not cover purchases for later resale or use in fabrication.

### **Section II. Terms of the Rate**

This rate schedule shall take effect on September 1, 1987 and shall terminate at midnight August 31, 1997. The rate schedule shall be subject to two reviews, commencing July 1, 1988 and July 1, 1990, as provided for in the August 10, 1987, Order in Case No. 9885, and such other reviews as may from time to time be established by the Public Service Commission. Upon termination of this rate schedule, the rates applicable to nonsmelter customers shall apply to the aluminum smelters.

### **Section III. Rate**

#### **A. Initial Rate Charges Subject to Adjustments**

The following rates shall apply to sales for resale to primary aluminum smelter customers that purchase power under the Variable Smelter Power Rate Schedule.

##### **1. Base Variable Aluminum Smelter Rate**

###### **a. Demand Charge**

\$7.50 per kilowatt of contract demand.

b. Pivot Energy Charge

32.0 mills per kilowatt-hour of billing energy.

2. Lower Rate Limit

18.1 mills per kilowatt-hour of billing energy.

3. Upper Rate Limit

44.0 mills per kilowatt-hour of billing energy.

B. Initial Rate Parameters Subject to Adjustments

The following rate parameter shall be used in determining the power bills for customers purchasing power under the Variable Aluminum Smelter Power Rate Schedule.

Pivot Aluminum Price

62 cents per pound.

Section IV. Formula

The Variable Aluminum Smelter Power Rate is a formula tied to the average monthly "MW U.S. Trans" price of aluminum as reported in Metals Week, for the month prior to the month charges are incurred ('monthly billing aluminum price'). Under this rate schedule, the monthly energy charge varies in response to changes in the monthly billing aluminum price.

A. Demand Charge

1. Each month the smelters purchasing under the Variable Aluminum Smelter Power Rate Schedule shall pay a Demand Charge, as stated in Section III.A.1.a. of this rate schedule, times the contracted capacity, pursuant to current contracts. For the amount of energy consumed in each month, the smelters shall pay the Energy Charge, as stated in

Section IV.B. of this rate schedule, minus a Demand Charge Credit for each kilowatt-hour, computed as the Demand Charge rate converted to mills per kilowatt-hour at a 99% load factor.

B. Energy Charge

1. Pivot Point Charge

When the monthly billing aluminum price (described in Section VI. of this schedule) is equal to the Pivot Aluminum Price (as stated in Section III.B. of this rate schedule), the monthly energy charge shall be the Pivot Energy Charge as stated in Section III.A.1.b. of this rate schedule.

2. Reductions to Pivot Energy Charge

When the monthly billing aluminum price is less than the Pivot Aluminum Price, the monthly energy charge shall be the greater of:

a. The Pivot Energy Charge minus  $(P - \text{MAP}) \times \text{LS}$  where:

P = the Pivot Aluminum Price as stated in Section III.B. of this rate schedule.

MAP = the monthly billing aluminum price in cents per pound determined pursuant to Section VI. of this schedule.

LS = the lower slope or 0.8 mills per kilowatt-hour.

or

b. the Lower Rate Limit as stated in Section  
III.A.2. of this rate schedule.

3. Increases to Pivot Energy Charge

When the monthly billing aluminum price is greater than the Pivot Aluminum Price, the monthly energy charge shall be the lesser of:

a. The Pivot Energy Charge plus  $(MAP-P) \times US$  where:

P = the Upper Pivot Aluminum Price as stated  
in Section III.B. of this rate schedule.

MAP = the monthly billing aluminum price in  
cents per pound determined pursuant to  
Section VI.A.1. of this schedule.

US = the upper slope or 0.7 mills per kilowatt-  
hour.

or

b. the Upper Rate Limit, as stated in Section  
III.A.3. of this rate schedule.

**Section V. Adjustments For Legislation or Regulatory Action**

Upon payment by Big Rivers for new, sudden expenditures required by legislation or regulatory action (e.g., acid rain, taxes), the Pivot Energy Charge and the Upper Rate Limit shall be adjusted to reflect these increased legislation or regulatory costs. The new Pivot Energy Charge and Upper Rate Limit shall supersede in every way the Pivot Energy Charge and Upper Rate Limit set out in Sections III.A.1.b. and III.A.3. of this schedule.

## **Section VI. Rate Parameters and Adjustments**

### **A. Monthly Average Aluminum Price Determination**

#### **1. Calculation of the Monthly Billing Aluminum Price**

The monthly billing aluminum price shall be determined monthly. For purposes of this rate schedule, the monthly billing aluminum price shall be the average U.S. Mid West Transactions Price reported for the previous month by Metals Week, in cents per pound.

#### **2. Changes in Aluminum Price Indicators**

In the event that Big Rivers Electric Corporation determines that factors outside its control have rendered Section VI.A.1. unusable as an approximation of the U.S. market price for aluminum, Big Rivers Electric Corporation shall develop and submit to the appropriate regulatory bodies a substitute indicator for determining the Monthly Billing Aluminum Price.

## **Section VII. Fuel Adjustment Clause**

The energy charge shall be increased or decreased by a fuel Adjustment factor as follows:

$$\frac{F}{S} - \$0.01295$$

(1) The fuel clause shall provide for periodic adjustment per KWH of sales equal to the difference between the fuel costs

per KWH sales in the base period and in the current period according to the following formula:

$$\text{Adjustment Factor} = \frac{F(m)}{S(m)} - \frac{F(b)}{S(b)}$$

Where F is the expense of fossil fuel in the base (b) and current (m) periods; and S is sales in the base (b) and current (m) periods, all defined below:

(2) FB/SB shall be so determined that on the effective date of the Commission's approval of the utility's application of the formula, the resultant adjustment will be equal to zero (0).

(3) Fuel costs (F) shall be the most recent actual monthly cost of:

- (a) Fossil fuel consumed in the utility's own plants, and the utility's share of fossil and nuclear fuel consumed in jointly owned or leased plants, plus the cost of fuel which would have been used in plants suffering forced generation and/or transmission outages, but less the cost of fuel related to substitute generation, plus
- (b) The actual identifiable fossil and nuclear fuel costs associated with energy purchased for reasons other than identified in paragraph (c) below, but excluding the cost of fuel related to purchases to substitute the forced outages, plus
- (c) The net energy cost of energy purchases, exclusive of capacity or demand charges (irrespective of the designation assigned to such transaction) when such



energy is purchased on an economic dispatch basis. Included therein may be such costs as the charges for economy energy purchases and the charges as a result of scheduled outage, all such kinds of energy being purchased by the buyer to substitute for its own higher cost energy; and less

(d) The cost of fossil fuel recovered through inter-system sales including the fuel costs related to economy energy sales and other energy sold on an economic dispatch basis.

(e) All fuel costs shall be based on weighted average inventory costing.

(4) Forced outages are all nonscheduled losses of generation or transmission which require (purchase of) substitute power for a continuous period in excess of six (6) hours. Where forced outages are not as a result of faulty equipment, faulty manufacture, faulty design, faulty installations, faulty operation or faulty maintenance, but are Acts of God, riot, insurrection or acts of the public enemy, then the utility may, upon proper showing, with the approval of the Commission, include the fuel cost of substitute energy in the adjustment.

(5) Sales (S) shall be all KWHs sold, excluding inter-system sales. Where, for any reason, billed system sales cannot be coordinated with fuel costs for the billing period, sales may be equated to the sum of (i) generation, (ii) purchases, (iii) interchange in, less (iv) energy associated with pumped storage operations, less (v) inter-system sales referred to in subsection

(3)(d) above, less (vi) total system losses. Utility-used energy shall not be excluded in the determination of sales (S).

(6) The cost of fossil fuel shall include no items other than the invoice price of fuel less any cash or other discounts. The invoice price of fuel includes the cost of the fuel itself and necessary charges for transportation of the fuel from the point of acquisition to the unloading point, as listed in Account 151 of FERC Uniform System of Accounts for Public Utilities and Licensees.

To facilitate the prompt mailing of bills, the fuel adjustment amount for any billing month shall be the product of the "Adjustment Factor" for the preceding month as defined above and the kilowatt-hours consumed by the Member in the preceding month.

## RULES & REGULATIONS

### SPECIAL RULES - ELECTRIC SERVICE

#### Billing Demand:

For each delivery point for which there is an established Contract Demand, where demand cannot by contract exceed the Contract Demand level by more than two percent without Big Rivers' permission, the Billing Demand in kilowatts shall be Member's maximum integrated thirty-minute demand at such delivery point during each billing month, determined by meters which record at the end of each thirty-minute period the integrated kilowatt demand during the preceding thirty minutes, or the Contract Demand, whichever shall be greater. For all other delivery points, the Billing Demand in kilowatts shall be Member's maximum integrated thirty-minute demand at such delivery point during each billing month, determined by meters which record at the end of each thirty-minute period the integrated kilowatt demand during the preceding thirty minutes, or such maximum integrated thirty-minute demand achieved during any one of the eleven preceding months, or the Contract Demand, whichever shall be greater.

#### Meter Testing and Billing Adjustment:

The Seller shall test and calibrate meters in accordance with the provisions of 807 KAR 5:041, Sections 15 and 17. The Seller shall also make special meter tests at any time at the Member's request. The costs of all tests shall be borne by the Seller; provided, however, that if any special meter test made at the Member's request shall disclose that the meters are recording accurately, the Member shall reimburse the Seller for the cost of such test. Meters registering not more than two percent (2%) above or below normal shall be deemed to be accurate. The readings of any meter which shall have been disclosed by test to be inaccurate shall be corrected for the ninety (90) days previous to such test in accordance with the percentage of inaccuracy found by such test. If any meter shall fail to register for any period, the Member and the Seller shall agree as to the amount of energy furnished during such period and the Seller shall render a bill therefor.